TIME: THE HPC FOR ENERGY ADVANTAGE

HPC makes companies more competitive by dramatically reducing the time needed to develop new products. Here's how the hpc4energy Incubator has produced powerful time savings through HPC.

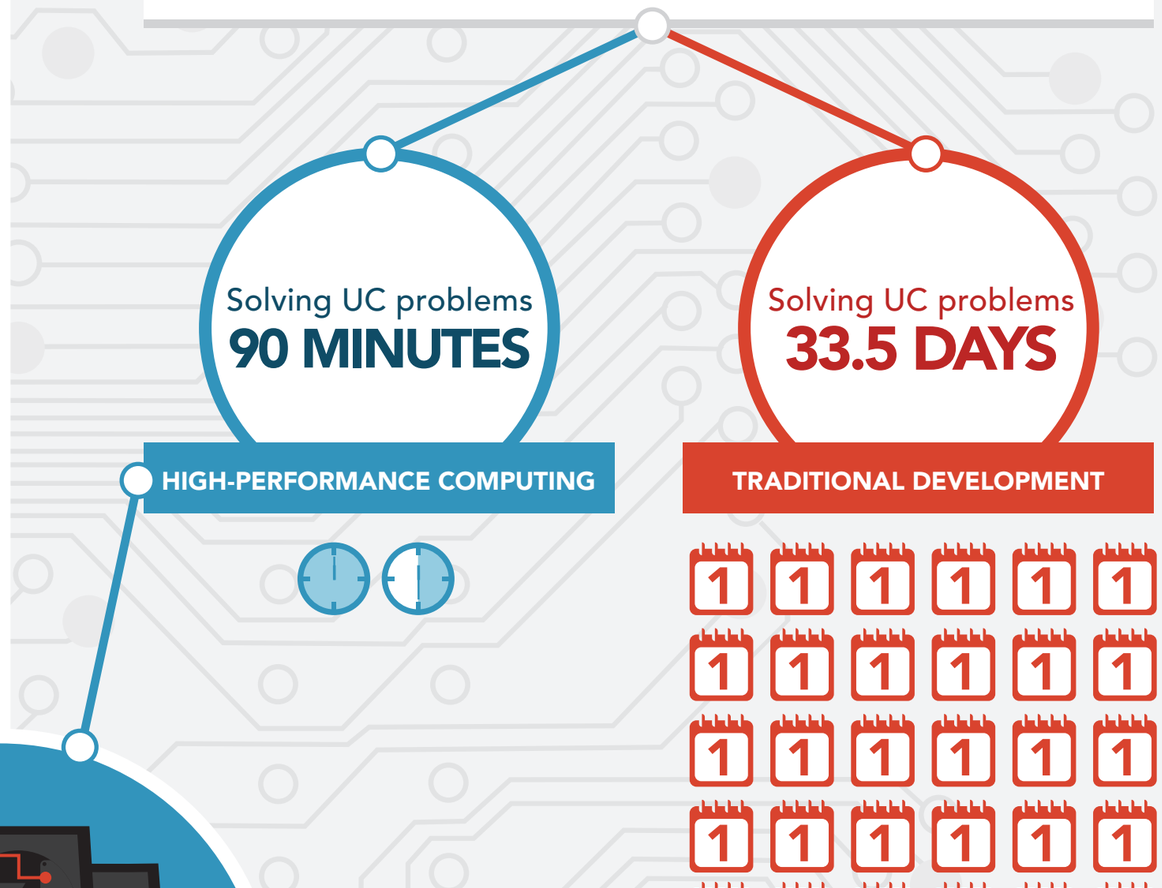
= 1 Day = 1 Hour

GE ENERGY

The collaborative GE Energy Consulting and Lawrence Livermore National Laboratory team parallelized the Positive Sequence Load Flow (PSLF) code to run on High Performance Computing machines. In parallelizing PSLF, the amount of time required to conduct a complete set of contingency analyses on a data set decreased dramatically.

ISO-NE

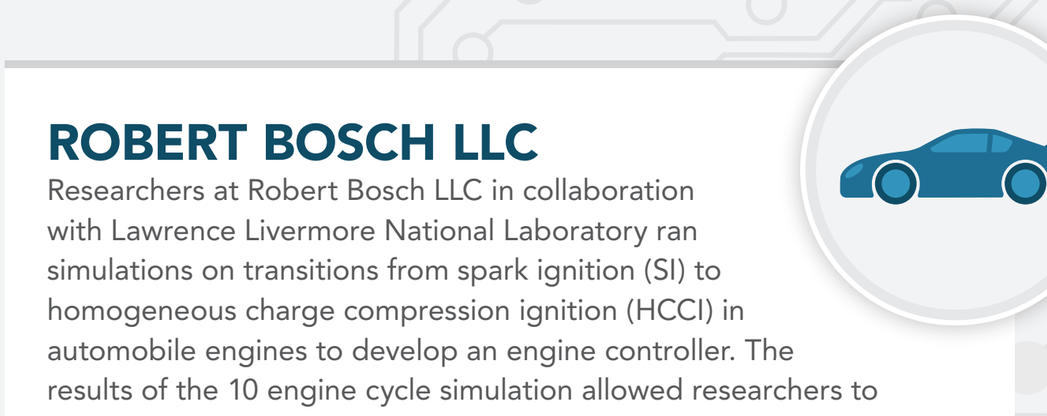
In April 2012, ISO New England kicked off a collaborative project with statistical and computational scientists at Lawrence Livermore National Laboratory to further study whether robust unit commitment (UC) would be a more reliable and economic approach to scheduling resources to generate electricity than the deterministic UC approach.



THE HPC4ENERGY INCUBATOR IS IMPROVING U.S. ENERGY TECHNOLOGY AND INDEPENDENCE

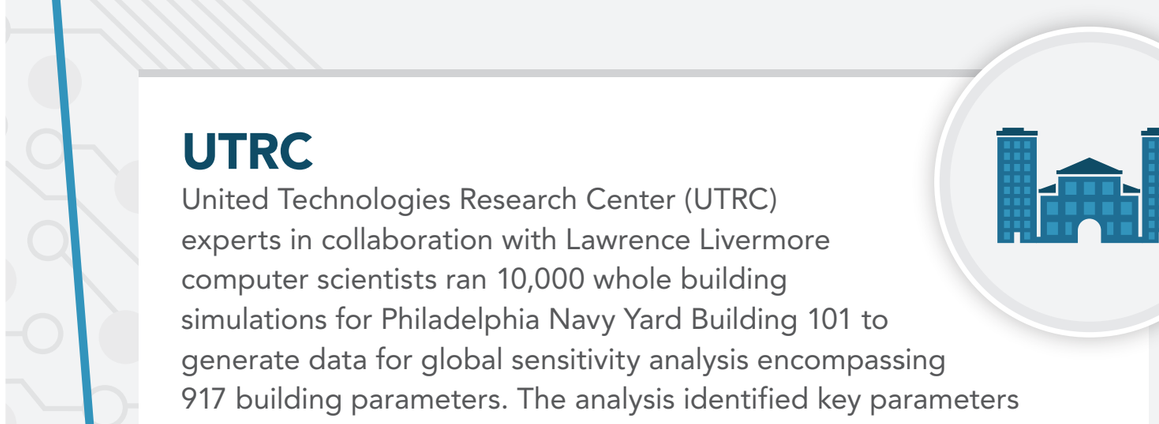
ROBERT BOSCH LLC

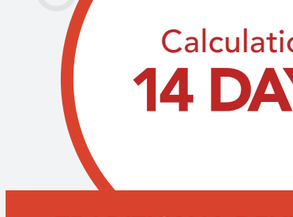
Researchers at Robert Bosch LLC in collaboration with Lawrence Livermore National Laboratory ran simulations on transitions from spark ignition (SI) to homogeneous charge compression ignition (HCCI) in automobile engines to develop an engine controller. The results of the 10 engine cycle simulation allowed researchers to understand the effect of an operating strategy on the transition.



UTRC

United Technologies Research Center (UTRC) experts in collaboration with Lawrence Livermore computer scientists ran 10,000 whole building simulations for Philadelphia Navy Yard Building 101 to generate data for global sensitivity analysis encompassing 917 building parameters. The analysis identified key parameters for energy output for the building and revealed solutions for building energy performance.





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